

**REMARKS**

Applicants are pleased to see that claims 15-17, 20, 26, and 29-30 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 15, 20, 26 and 29 are presented in independent form. Thus, indication of allowability of these claims is respectfully requested.

Claims 11-31 are pending.

Applicants respectfully submit that currently amended independent claims 11 and 23, and claims depending from these claims, are allowable for the following reasons.

**Office Action**

Turning now to the Office Action in greater detail, the paragraphing of the Examiner is adopted.

**Specification**

The Abstract is objected to as being longer than the 150 words permitted under U.S. practice.

Applicants submit a shortened Abstract.

**Claim Objections**

The Examiner objects claims 12-31 to because of the informalities.

The position of the Examiner can be found on pages 3-4 of the Office Action.

Applicants have amended the claims as required by the Examiner.

**Claim Rejections - 35 USC § 102**

Claims 11, 18-19, 21-25, and 31 are rejected under 35 U.S.C. §102(e) as being anticipated by Fukaya et al. (Patent No. US 6,558,117 B1).

Applicants respectfully traverse.

The characterizing feature of the present invention is the inclusion of at least two spacers **integrally formed** on at least one of the circumferential surfaces of the ring members.

As set forth in paragraphs 8 and 9 of the specification, the integrally forming is preferably accomplished by casting, embedding, or machining. Claim 11 has been amended to clarify the techniques for integrally forming.

Turning to Fukaya et al, Figs. 1-3 and col. 3, lines 16-51 referred to by the Examiner do not show a spacer integrally formed with a ring member. In Fig. 2 spacer 3 is held in place by a bolt 8. Fig. 3 clearly shows, by shading marks, that the spacer 3 is a different element from bolt 8 or rings 1 and 6.

Applicants have reviewed the entire reference and note that the most relevant text appears to be found at col. 5, lines 42-45:

The flow passage spacer 3 is fixed to the side wall of the casing 1 and the side wall of the guide vane table 6 by welding or the like without using bolts 8.

Even this text does not suggest the present invention since here the spacer is **subsequently joined to,** not **integrally formed with,** the ring members.

The person of ordinary skill would understand Fukaya et al to be teaching welding here as a less preferred method of

fixing of the spacer, an extreme measure necessitated by the fact that in this embodiment the vane is designed to be pivotable by a shaft located where the bolt (of the preferred embodiment) is usually located. Since the shaft occupies the place of the bolt, a substitute and less preferred method of fixing is required. Welding onto the rings defining the vane space in a turbocharger is avoided for the following reasons:

1. Welding is a thermal process, thus introducing thermal stress which may lead to warpage either immediately or following many thermal cycles in the operating environment of a turbocharger. Since the clearance or gap between the vanes and the rings is to be kept as small as possible to minimize bypass and maximize flow control, welding will either result in warpage and vane jamming, or will require that the gap between vane and rings be increased to prevent jamming, which measure will increase bypass and sacrifice turbocharger efficiency.

2. Welding results in formation of welding beads or seams, which must either be removed in order to allow the vanes to pivot over full range and to contact the spacer, or if not removed, can block the ability of the vane (with close tolerances to the rings and designed to fit flush against the spacer) to pivot over it's full range of movement, for example, not fully closing the flow path when braking operations are required.

3. Welding in the confined space between two disks is difficult.

Accordingly, Fukaya et al does not anticipate the present invention.

**Claim Rejections - 35 USC § 103**

Claims 12-14 and 27-28 are rejected under 35 U.S.C.

103(a) as being obvious over Fukaya et al. (US Patent No. 6,558,117 B1).

Applicants respectfully submit that these claims are allowable by virtue of their dependency from allowable claims. Claims 27 and 28 in particular, reciting casting and precision casting, are particularly distinguished from Fukaya et al. The embodiment of Fukaya et al showing welding can not be considered to suggest casting, since there is no possible way to cast a hollow spacer structure, integral with ring members, surrounding a freely pivotable vane as shown in Fukaya et al Fig. 8 and associated text.

Accordingly, withdrawal of the rejection is respectfully requested.

**Allowable Subject Matter**

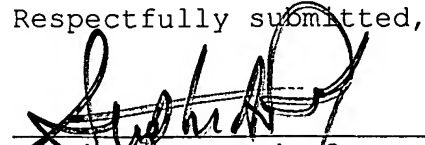
Claims 15-17, 20, 26, and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 15, 20, 26 and 29 are presented in independent form. Thus, indication of allowability of these claims is respectfully requested.

As there are no further objections or rejections, early issuance of the Notice of Allowance is respectfully requested. Should the Examiner have any further suggestions, she is invited to contact the undersigned at the telephone number provided below.

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Respectfully submitted,

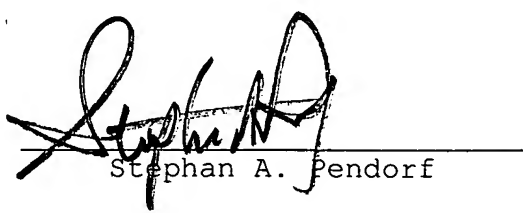
  
Stephan A. Pendorf  
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Date: April 6, 2005

**CERTIFICATE OF MAILING AND AUTHORIZATION TO CHARGE**

I hereby certify that the foregoing AMENDMENT A for U.S. Application No. 10/649,477 filed August 26, 2003, was deposited in first class U.S. mail, with sufficient postage, addressed: Attn: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 6, 2005.

The Commissioner is hereby authorized to charge any additional fees, which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 16-0877.

  
Stephan A. Pendorf